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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,745	12/16/2003	Nam-Hyong Kim	Q78338	3344

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EXAMINER	
PANWALKAR, VINEETA S	
ART UNIT	**PAPER NUMBER**
2611	

MAIL DATE	DELIVERY MODE
05/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/735,745	KIM, NAM-HYONG	
	Examiner	Art Unit	
	VINEETA S. PANWALKAR	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,14-25,28 and 30-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-11,15-25 and 31-34* is/are allowed.

6)☒ Claim(s) *14,28 and 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/12/08 have been fully considered but they are not persuasive.

1a. Regarding claims 14, 28 and 30, applicant argues that since previously cited reference Fullerton et al. (US 6937667 B1, hereinafter Fullerton) discloses a flip modulation technique and previously cited reference Low et al. (US 2002/0190881 A1, hereinafter, Low) discloses a pulse width modulation technique, one of ordinary skill in the art would not have been motivated to combine their teachings. Applicant further argues that there is no suggestion that a simpler system configuration would be provided using Low's pulse width modulation technique over Fullerton's flip modulation technique.

However, it is pointed out that Fullerton discloses apparatuses, systems and methods for modulation in an impulse radio communications system (Column 2, lines 25-39) and Low invention relates to techniques for generating pulses in an Ultra wide-band (UWB) or impulse radio environment (Paragraphs [0003] and [0004]). Further, Low discloses that "the present invention system configuration is much simpler". It is pointed out that "present invention system configuration" encompasses Low's pulse width modulation technique. Hence, one of ordinary skill in that art would indeed have been motivated to use Low's pulse width modulation technique for generating a UWB pulse in place of Fullerton's flip modulation technique, because Low's technique has simpler system

configuration. Thus, the grounds of rejection are maintained and repeated hereinafter and this action is made final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 14, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fullerton in view of Low.

2a. Regarding claims 14, 28 and 30 Fullerton shows a UWB (Column 1, lines 45-50 and column 2, lines 25-28) pulse sequence generation method (apparatus of Fig. 17 performs claimed method and Fullerton also shows a computer readable recording medium for recording a program as per claim 30(Column 43, line 1 – column 44, line 40)) comprising:

- a pulse sequence generator (Fig. 17, unit 1722) which generates
- a first UWB pulse sequence (Fig. 17, output comprising "0"s is interpreted as first UWB sequence (Fig. 8, pulse 802); see column 14, line 25- column 15, line 45; column 23, lines 5-50) using a predetermined random number sequence (Fig. 17, code generator 1712 is interpreted as providing claimed predetermined random number sequence; Column 7, lines 35-50, column 15, lines 60-68; column 23, lines 5-15); and
- a second UWB pulse sequence (Fig. 17, output 1732 comprising "1"s is interpreted as claimed second sequence (Fig. 8 pulse 804)). (Column 14, line 25- column 15, line 45; column 23, lines 5-50).

(It is further pointed out that if applicant did intend to claim first and second pulse generators, Fullerton does show a first pulse generator (Fig. 9, pulser 922) and a second pulse generator (Fig. 9, pulser 924), as claimed (See column 14, line 25 – column 16, line 28)).

Thus, Fullerton shows all the limitations claimed, but fails to explicitly disclose whether the second pulse has pulse width that is wider than the pulse width of the first UWB pulse sequence by a predetermined degree.

…In the same field of endeavor, however, Low shows method and apparatus for UWB communications with a UWB pulse sequence generation apparatus comprising wherein the second pulse has pulse width that is wider than the pulse width of the first UWB pulse sequence by a predetermined degree (Paragraph [0058], wherein pulse width of bit"1" is wider than pulse width of bit "0" by a fixed amount (claimed predetermined degree)).

Thus, it would have been obvious to a person of ordinary skill in the art to adjust the width of the pulses as shown by Low in the receiver shown by Fullerton, because Low's technique has simpler system configuration (Paragraph [0062]) because it would enable the receiver to distinguish the two pulse sequences merely based on pulse width.

Allowable Subject Matter

3. Claims 1-11, 15-25 and 31-34 are allowed.

The following is an examiner's statement of reasons for allowance:

3a. Regarding claims 1, 8, 15 and 22, prior art of record fails to show a data transmitting and receiving system comprising a template pulse generator which generates a reference template pulse sequence used to detect a start point of the random-interval pulse sequence and a random number sequence detector which receives the random-interval pulse sequence and detects information regarding a start point of a random number sequence, which is used to make the

received random-interval pulse sequence, using the reference template pulse sequence, in combination with each and every other limitation of the claims.

3b. Claims 2-7, 9-11, 16-21, 23-25 and 31-34 are allowed as being dependent on claims 1, 8, 15 and 22.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vineeta S. Panwalkar whose telephone number is 571-272-8561. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/V. S. P./

Examiner, Art Unit 2611

/Mohammad H Ghayour/

Supervisory Patent Examiner, Art Unit 2611